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FIG. 1

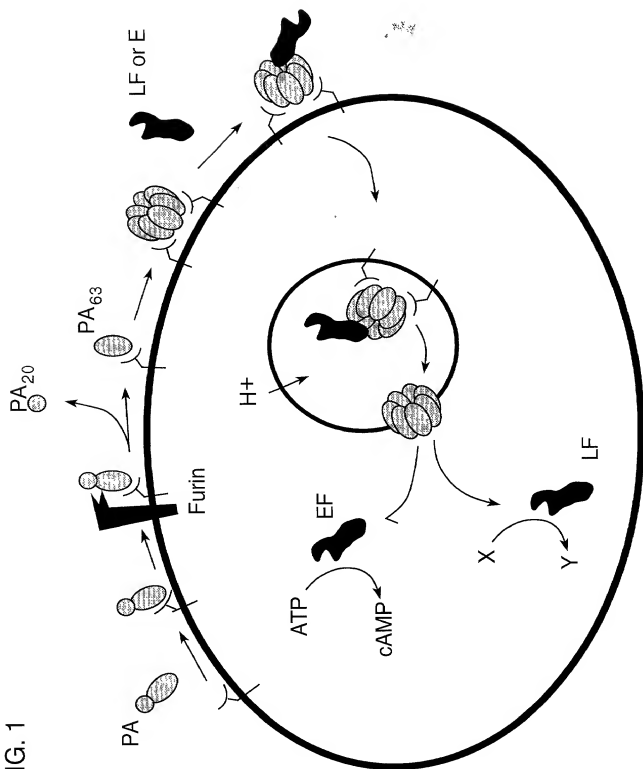
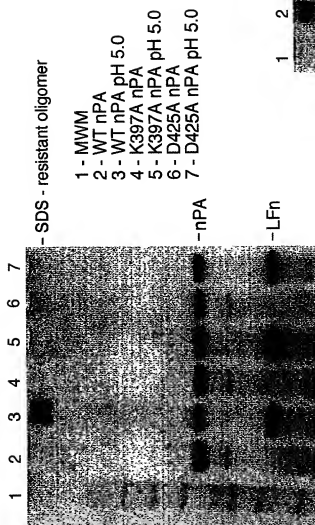
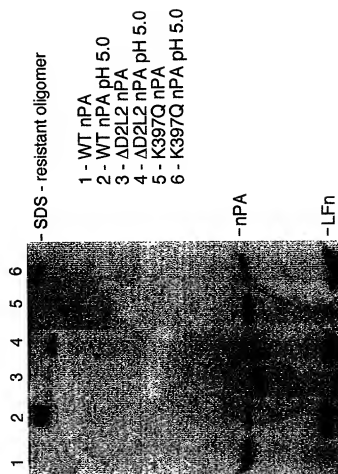


FIG. 2A



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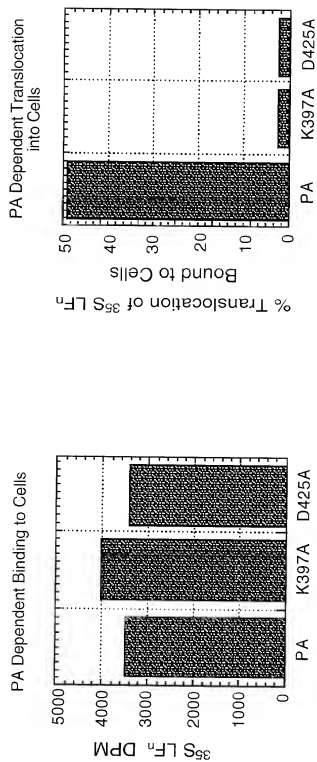






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FIG. 4



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FIG. 5

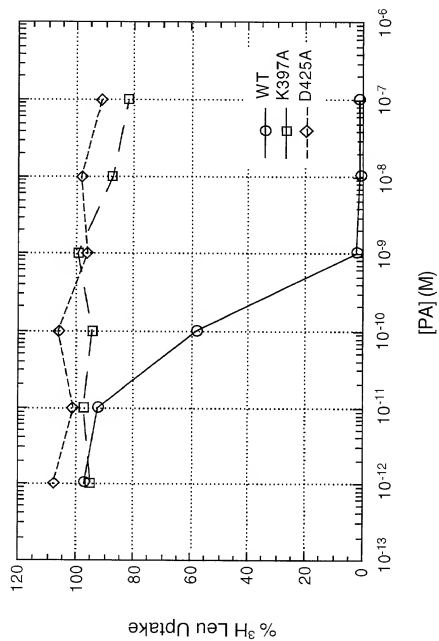


FIG. 6

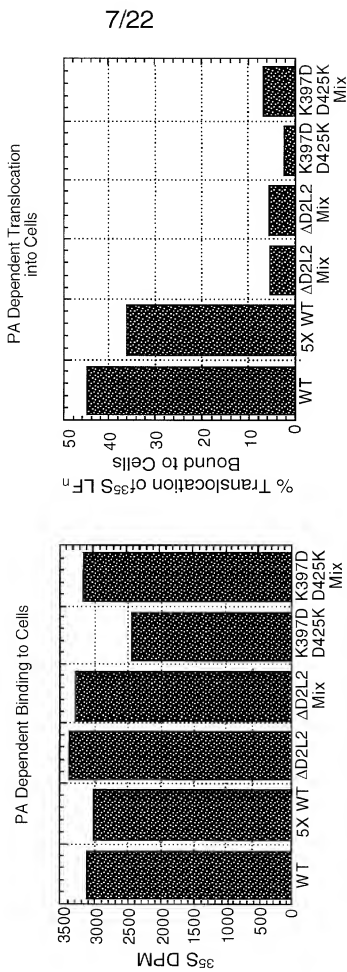


FIG. 7

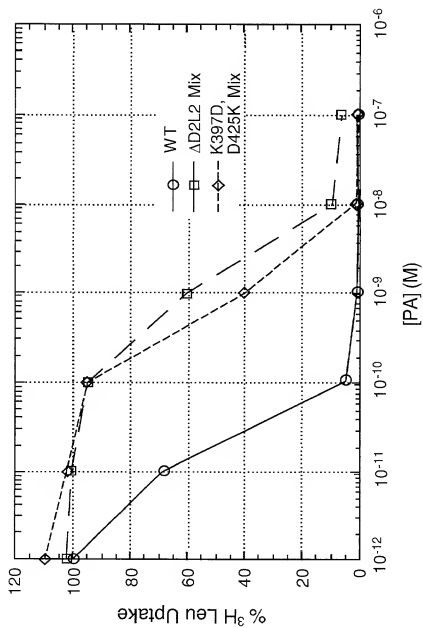
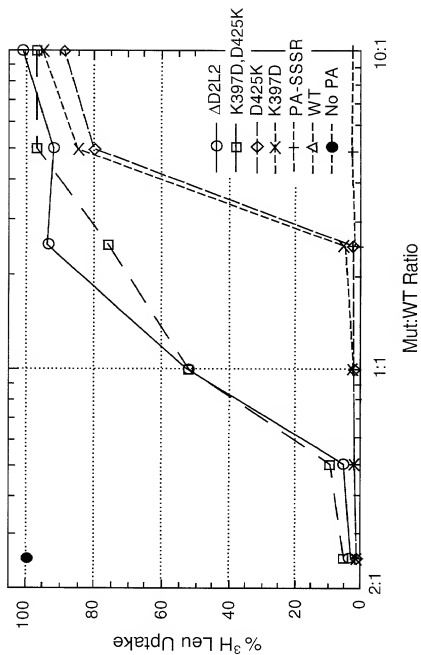




FIG. 8A



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FIG. 8B

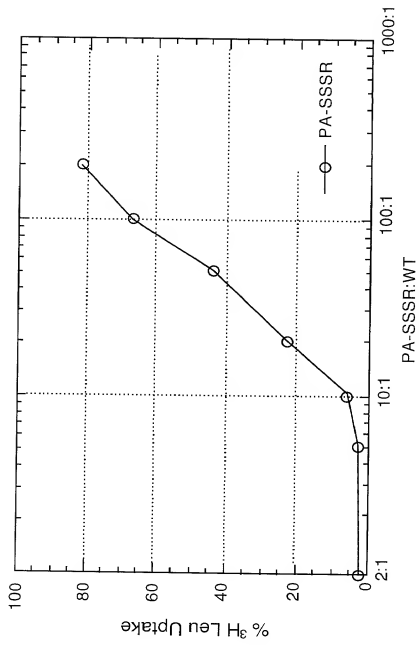
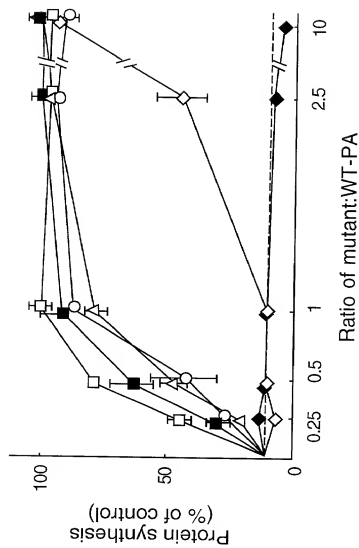


FIG. 9



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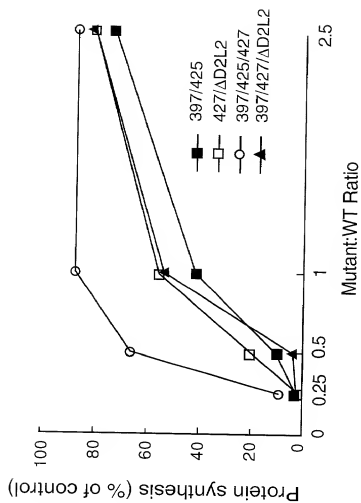


FIG. 10

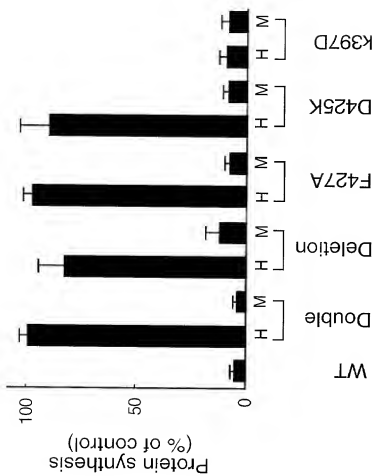


FIG. 11

100  
 90  
 80  
 70  
 60  
 50  
 40  
 30  
 20  
 10  
 0

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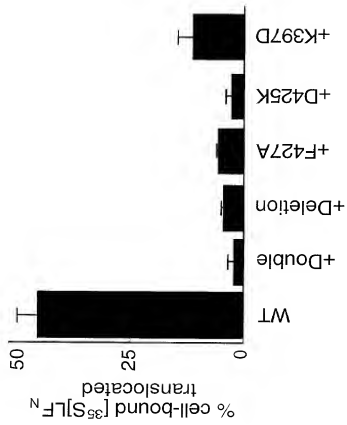


FIG. 12

## FIG. 13

Figure 13: SEQ ID No.: 21

EVKQENRLLNESESSQGLGYFSDLNFAQPMVVTSSTTGDLSIPSSSELENIPSEN  
 QYFQSAIWSGFIKVKKSDEYTHA  
 TSADNHVTMWVDDQEVINKASNSNKIRLEKGRLYQIKIQYQRENPTTEKGLDFKL  
 YWTDQNKKEVISSDNLQLPELKQS  
 SNRRKRSAGPTVPRDNDGPDSEVEGYTVDVKNKRTFLSPWISNIHEKKG  
 LTKYKSSPEKWSIASDPYSDFEKT  
 GRIDKNVSPEARHPLVAAYPVHVDMENIILSKNEDQSTQNTDSETRTISKNTSTS  
 RTHTSEVHGNAEVHASFDDIGSV  
 SAGFSNSSTVAIDHSLSLAGERTWAETMGLNTADTARLNANIRYVNTGTAPIY  
 NVLPTSLVLGKNQTLATKAKENQ  
 LSQ LAPNNYPSKNLAPIALNAQDDFSSTPTIMNYNQFLELETKQLRLD TDQV  
 YGNATYFNENGVRVDTGSNWSEV  
 LPQIETARIFNGKDLNLVERRIAAVNPSDPLETTKPDMTLKEALKIAGFNPN  
 GNLOYQGKDITFEFDFDQOTSQ  
 NIKNQLAELNATNYTVLDKIKLNAKMNLIRDKRFHYDRNNIAVGADES VVKEA  
 HREVNSSTEGLLLNIDKDIRKILS  
 GYIVIEDTEGLKEGVNDRYDMLNISSLRQDCKTFIDFKKYNDKLPYISNPNYKV  
 NVYAVTKENTINPENGDTSTNG  
 IKKILFSKKGYEIGZ

FIG. 14

Figure 14: SEQ ID No.: 22

GAAGTTAAACAGGAGAACCGGTTATTAATGAATCAGAATCAAGTTCCCAGG  
 GGTTACTAGGATACTATTTTAGTGATT  
 GAATTTTCAAGCACCCATGGTGGTTACCTCTTCTACTACAGGGGATTATCTA  
 TTCCTAGTCTGAGTTAGAAAATTC  
 CATCGGAAAACCAATATTTTCAATCTGCTATTTGGTCAGGATTTATCAAAGTT  
 AAGAAGAGTGATGAATATACATTTGCT  
 ACTTCGCTGATAATCATGTAACAATGTGGGTAGATGACCAAGAAGTGATTA  
 ATAAAGCTTCTAATTCTAAACAAAATCAG  
 ATTAGAAAAAGGAAGATTATCAAAATAAAAAATTCAATATCAACGAGAAAAAT  
 CCTACTGAAAAAGGATTGGATTTCAAAGT  
 TGTACTGGACCGATTCTCAAAATAAAAAAGAAGTGATTCTAGTGATAACTT  
 ACAATTGCCAGAATTAACAAAAAATCT  
 TCGAACTCAAGAAAAAGCGAAGTACAAGTGCTGGACCTACGGTTCCAGACC  
 GTGACAATGATGGAATCCCTGATTCATT  
 AGAGGTAGAAGGATATACGGTTGATGTCAAAAAATAAAGAAGCTTTTCTTTCA  
 CCATGGATTCTAATATTCATGAAAAGA  
 AAGGATTAACCAAATATAAATCATCTCTGAAAAATGGAGCACGGCTTCTGA  
 TCCGTACAGTGATTTGAAAAAGGTTACA  
 GGACGGATTGATAAGAATGTATCACCAGAGGCAAGACACCCCTTGTTGGCAG  
 CTTATCCGATTGTACATGTAGATATGGA  
 GAATATTATTCTCTCAAAAAATGAGGATCAATCCACACAGAATACTGATAGT  
 GAAACGAGAACAATAAGTAAAAATACTT  
 CTACAAGTAGGACACATACTAGTGAAGTACATGGAAATGCAGAAGTGATGTC  
 GTCGTTCTTTGATATTGGTGGGAGTGTA  
 TCTGCAGGATTTAGTAATTGCAATTCAAGTACGGTGCGAATTGATCATTCACT  
 ATCTCTAGCAGGGGAAAGAACTTGGGC  
 TGAACAATGGGTTTAAATACCGCTGATACAGCAAGATTAATGCCAATATT  
 AGATATGTAATACTGGGACGGCTCCAA  
 TCTACAACGTGTACCAACGACTTCGTTAGTGTTAGGAAAAATCAAACACT  
 CGCGACAATTAAGCTAAGGAAAAACCA  
 TTAAGTCAAATCACTTGCACTTAATAATTATCTCTTAAAAACTTGGCGCC  
 AATCGCATTAATGCACAAGACGATT  
 CAGTTCTACTCCAATTACAATGAATTACAATCAATTTCTTGAGTTAGAAAAAA  
 CGAAACAATTAAGATTAGATACGGATC  
 AAGTATATGGGAATATAGCAACATACAATTTGAAAAATGGAAGAGTGAGGGT  
 GGATACAGGCTCGAACTGGAGTGAAGTG  
 TTACCGCAAATTCAAGAAACAACTGCACGTATCATTTTTAATGAAAAAGATT  
 AAATCTGGTAGAAAGGCGGATACGGCG  
 GGTTAATCCTAGTGATCCATTAGAAACGACTAAACCGGATATGACATTAATA  
 GAAGCCCTAAAAATGCACTTTGGATTTA  
 ACGAACCGAATGGAACCTTACAATATCAAGGGAAGACATAACCGAATTTG  
 ATTTTAATTCGATCAACAAACATCTCAA  
 AATATCAAGAATCAGTTAGCGGAATTAACGCAACTAACATATATACTGTAT  
 TAGATAAAATCAAATTAATGCAAAAAAT



FIG. 14 (CONTINUED)

GAATATTTTAAGAGATAAACGTTTTTCATTATCATAGAAATAACATAGCA  
 GTTGGGCGGATGAGTCAGTAGTTAAGG  
 AGGCTCATAGAGAAGTAAITTAATTCGTCAACA GAGGGATTATTGTTAAATAT  
 TGATAAGGATATAAGAAAAATATTATCA  
 GGTATATTGTAGAAITGAAGATACTGAAGGGCTTAAAGAAAGTTATAAATG  
 ACAGATATGATGTGTGAATATTCTAG  
 TTACGGCAAGATGGAAAAACATTTATAGATTTTAAAAAATATAATGATAAA  
 TTACCGTTATATAAGTAATCCCAAT  
 ATAAGGTAATGTATATGCTGTACTAAAGAAAAACATAATTATAATCCTAGT  
 GAGAATGGGATACTAGTACCAACGGG  
 ATCAAGAAAAATTTAATCTTTCTAAAAAAGGCTATGAGATAGGATAA

PA 137  
 cADMPRT 172  
 spote 170  
 spote 168  
 sp2 140  
 VPI 131  
 acc

PA 191  
 cADMPRT 234  
 spote 233  
 spote 232  
 sp2 201  
 VPI 195  
 acc

PA 261  
 cADMPRT 312  
 spote 299  
 spote 298  
 sp2 266  
 VPI 260  
 acc

PA 330  
 cADMPRT 363  
 spote 362  
 spote 364  
 sp2 321  
 VPI 321  
 acc

PA 408  
 cADMPRT 428  
 spote 427  
 spote 426  
 sp2 401  
 VPI 402  
 acc

PA 478  
 cADMPRT 496  
 spote 495  
 spote 494  
 sp2 469  
 VPI 469  
 acc

PA 538  
 cADMPRT 562  
 spote 561  
 spote 560  
 sp2 535  
 VPI 535  
 acc

PA 595  
 cADMPRT 616  
 spote 615  
 spote 614  
 sp2 586  
 VPI 586  
 acc

PA 658  
 cADMPRT 682  
 spote 681  
 spote 680  
 sp2 653  
 VPI 653  
 acc

PA 718  
 cADMPRT 742  
 spote 741  
 spote 740  
 sp2 713  
 VPI 713  
 acc

PA 778  
 cADMPRT 802  
 spote 801  
 spote 800  
 sp2 773  
 VPI 773  
 acc

PA 838  
 cADMPRT 862  
 spote 861  
 spote 860  
 sp2 833  
 VPI 833  
 acc

PA 898  
 cADMPRT 922  
 spote 921  
 spote 920  
 sp2 893  
 VPI 893  
 acc

PA 958  
 cADMPRT 982  
 spote 981  
 spote 980  
 sp2 953  
 VPI 953  
 acc

PA 1018  
 cADMPRT 1042  
 spote 1041  
 spote 1040  
 sp2 1013  
 VPI 1013  
 acc

PA 1078  
 cADMPRT 1102  
 spote 1101  
 spote 1100  
 sp2 1073  
 VPI 1073  
 acc

PA 1138  
 cADMPRT 1162  
 spote 1161  
 spote 1160  
 sp2 1133  
 VPI 1133  
 acc

PA 1198  
 cADMPRT 1222  
 spote 1221  
 spote 1220  
 sp2 1193  
 VPI 1193  
 acc

PA 1258  
 cADMPRT 1282  
 spote 1281  
 spote 1280  
 sp2 1253  
 VPI 1253  
 acc

PA 1318  
 cADMPRT 1342  
 spote 1341  
 spote 1340  
 sp2 1313  
 VPI 1313  
 acc

PA 1378  
 cADMPRT 1402  
 spote 1401  
 spote 1400  
 sp2 1373  
 VPI 1373  
 acc

PA 1438  
 cADMPRT 1462  
 spote 1461  
 spote 1460  
 sp2 1433  
 VPI 1433  
 acc

PA 1498  
 cADMPRT 1522  
 spote 1521  
 spote 1520  
 sp2 1493  
 VPI 1493  
 acc

PA 1558  
 cADMPRT 1582  
 spote 1581  
 spote 1580  
 sp2 1553  
 VPI 1553  
 acc

PA 1618  
 cADMPRT 1642  
 spote 1641  
 spote 1640  
 sp2 1613  
 VPI 1613  
 acc

PA 1678  
 cADMPRT 1702  
 spote 1701  
 spote 1700  
 sp2 1673  
 VPI 1673  
 acc

PA 1738  
 cADMPRT 1762  
 spote 1761  
 spote 1760  
 sp2 1733  
 VPI 1733  
 acc

PA 1798  
 cADMPRT 1822  
 spote 1821  
 spote 1820  
 sp2 1793  
 VPI 1793  
 acc

PA 1858  
 cADMPRT 1882  
 spote 1881  
 spote 1880  
 sp2 1853  
 VPI 1853  
 acc

PA 1918  
 cADMPRT 1942  
 spote 1941  
 spote 1940  
 sp2 1913  
 VPI 1913  
 acc

PA 1978  
 cADMPRT 2002  
 spote 2001  
 spote 2000  
 sp2 1973  
 VPI 1973  
 acc

PA 2038  
 cADMPRT 2062  
 spote 2061  
 spote 2060  
 sp2 2033  
 VPI 2033  
 acc

PA 2098  
 cADMPRT 2122  
 spote 2121  
 spote 2120  
 sp2 2093  
 VPI 2093  
 acc

PA 2158  
 cADMPRT 2182  
 spote 2181  
 spote 2180  
 sp2 2153  
 VPI 2153  
 acc

PA 2218  
 cADMPRT 2242  
 spote 2241  
 spote 2240  
 sp2 2213  
 VPI 2213  
 acc

PA 2278  
 cADMPRT 2302  
 spote 2301  
 spote 2300  
 sp2 2273  
 VPI 2273  
 acc

PA 2338  
 cADMPRT 2362  
 spote 2361  
 spote 2360  
 sp2 2333  
 VPI 2333  
 acc

PA 2398  
 cADMPRT 2422  
 spote 2421  
 spote 2420  
 sp2 2393  
 VPI 2393  
 acc

PA 2458  
 cADMPRT 2482  
 spote 2481  
 spote 2480  
 sp2 2453  
 VPI 2453  
 acc

PA 2518  
 cADMPRT 2542  
 spote 2541  
 spote 2540  
 sp2 2513  
 VPI 2513  
 acc

PA 2578  
 cADMPRT 2602  
 spote 2601  
 spote 2600  
 sp2 2573  
 VPI 2573  
 acc

PA 2638  
 cADMPRT 2662  
 spote 2661  
 spote 2660  
 sp2 2633  
 VPI 2633  
 acc

PA 2698  
 cADMPRT 2722  
 spote 2721  
 spote 2720  
 sp2 2693  
 VPI 2693  
 acc

PA 2758  
 cADMPRT 2782  
 spote 2781  
 spote 2780  
 sp2 2753  
 VPI 2753  
 acc

PA 2818  
 cADMPRT 2842  
 spote 2841  
 spote 2840  
 sp2 2813  
 VPI 2813  
 acc

PA 2878  
 cADMPRT 2902  
 spote 2901  
 spote 2900  
 sp2 2873  
 VPI 2873  
 acc

PA 2938  
 cADMPRT 2962  
 spote 2961  
 spote 2960  
 sp2 2933  
 VPI 2933  
 acc

PA 2998  
 cADMPRT 3022  
 spote 3021  
 spote 3020  
 sp2 2993  
 VPI 2993  
 acc

PA 3058  
 cADMPRT 3082  
 spote 3081  
 spote 3080  
 sp2 3053  
 VPI 3053  
 acc

PA 3118  
 cADMPRT 3142  
 spote 3141  
 spote 3140  
 sp2 3113  
 VPI 3113  
 acc

PA 3178  
 cADMPRT 3202  
 spote 3201  
 spote 3200  
 sp2 3173  
 VPI 3173  
 acc

PA 3238  
 cADMPRT 3262  
 spote 3261  
 spote 3260  
 sp2 3233  
 VPI 3233  
 acc

PA 3298  
 cADMPRT 3322  
 spote 3321  
 spote 3320  
 sp2 3293  
 VPI 3293  
 acc

PA 3358  
 cADMPRT 3382  
 spote 3381  
 spote 3380



PA

```

PA .....
cdADPRT .....
cp1ete .....
cslcte .....
cbs2 .....
VIP1 NLEMEGELEFVSEKLEQVVIIVLLSYFSESLINDEVEILAEQLHINSOSRYTALQHLNITDNYVEDEKREK

```

24

```

PA .....
edADPRT .....
cp1c1c .....
c1c1c1c .....
cb2 .....
VIB1  ENALEWGNRENECEMLATLAEAGRMHEDLRNDIATVYKRTFSIAGSEFEINDLKEIRKMFETNLSN

```

PA

PA .....  
cdADPRT .....  
cpate .....  
cste .....  
cste .....  
cste .....  
VIP1 SECTVHVEFTTIGFNHSLTEGHTINSDMAQEKKEQFLDREDKFDSTLDNLIAQOVSSKEREVEIVTF

PA

```

PA      .....
cdADPRT .....
sp1ets .....
cs1ets .....
abc2    .....
VIP1    SGGSGSITFTRAGVILNHSEYKRLSDIOYKVVNVKVSIVVNRGVZCLOIETGLKSLSDFKRLINAAASWGG

```

PA

PA .....  
cdadPPT .....  
cpiots .....  
cslots .....  
cbcs .....  
VIP1 .....  
MKNIYEKAKKLTLSQREALGQYAKQDYKEINNYLRNQGGSGHEKLEAQTHIEALGKKFIFENIYVK

PA

```

      .AA .....
      cdADPR7 .....
      sppte .....
      calots .....
      ch .....
      VDP1 CCKPFGGIGQISLFLPSLMLDFEEQFLNTHKEDEGAKSTSLSSERLAAFGSEKNIILELQVFRGSGTGAYLSAI

```

En

scd4pct .....MKIKQKRRKVVSELT LTATVQSLVYVVFVAAQTSTENH  
 scpact .....MKIKQKRRVSELT LTATVQSLVYVVFVAAQTSTENH  
 scactm .....MKIKERI LGLLT CTVLVGQKMTVFVVAETITQRY  
 scb2 .....MLVSEK  
 VIF-1 GGFASERKILLKDSKYHIEKVTVEVIIRGVRRVVDATLLHSRGFSYFFIF SFSTFFFFSLTGSTMKTN

PA

[illegible]

PA

[illegible]

PA 145 150 155 160 165 170 T 175 180 185 190 195 200 205 210 215 220 225 230 235 240 245 250 255 260 265 270 275 280 285 290 295 300 305 310 315 320 325 330 335 340 345 350 355 360 365 370 375 380 385 390 395 400 405 410 415 420 425 430 435 440 445 450 455 460 465 470 475 480 485 490 495 500 505 510 515 520 525 530 535 540 545 550 555 560 565 570 575 580 585 590 595 600 605 610 615 620 625 630 635 640 645 650 655 660 665 670 675 680 685 690 695 700 705 710 715 720 725 730 735 740 745 750 755 760 765 770 775 780 785 790 795 800 805 810 815 820 825 830 835 840 845 850 855 860 865 870 875 880 885 890 895 900 905 910 915 920 925 930 935 940 945 950 955 960 965 970 975 980 985 990 995 1000 1005 1010 1015 1020 1025 1030 1035 1040 1045 1050 1055 1060 1065 1070 1075 1080 1085 1090 1095 1100 1105 1110 1115 1120 1125 1130 1135 1140 1145 1150 1155 1160 1165 1170 1175 1180 1185 1190 1195 1200 1205 1210 1215 1220 1225 1230 1235 1240 1245 1250 1255 1260 1265 1270 1275 1280 1285 1290 1295 1300 1305 1310 1315 1320 1325 1330 1335 1340 1345 1350 1355 1360 1365 1370 1375 1380 1385 1390 1395 1400 1405 1410 1415 1420 1425 1430 1435 1440 1445 1450 1455 1460 1465 1470 1475 1480 1485 1490 1495 1500 1505 1510 1515 1520 1525 1530 1535 1540 1545 1550 1555 1560 1565 1570 1575 1580 1585 1590 1595 1600 1605 1610 1615 1620 1625 1630 1635 1640 1645 1650 1655 1660 1665 1670 1675 1680 1685 1690 1695 1700 1705 1710 1715 1720 1725 1730 1735 1740 1745 1750 1755 1760 1765 1770 1775 1780 1785 1790 1795 1800 1805 1810 1815 1820 1825 1830 1835 1840 1845 1850 1855 1860 1865 1870 1875 1880 1885 1890 1895 1900 1905 1910 1915 1920 1925 1930 1935 1940 1945 1950 1955 1960 1965 1970 1975 1980 1985 1990 1995 2000 2005 2010 2015 2020 2025 2030 2035 2040 2045 2050 2055 2060 2065 2070 2075 2080 2085 2090 2095 2100 2105 2110 2115 2120 2125 2130 2135 2140 2145 2150 2155 2160 2165 2170 2175 2180 2185 2190 2195 2200 2205 2210 2215 2220 2225 2230 2235 2240 2245 2250 2255 2260 2265 2270 2275 2280 2285 2290 2295 2300 2305 2310 2315 2320 2325 2330 2335 2340 2345 2350 2355 2360 2365 2370 2375 2380 2385 2390 2395 2400 2405 2410 2415 2420 2425 2430 2435 2440 2445 2450 2455 2460 2465 2470 2475 2480 2485 2490 2495 2500 2505 2510 2515 2520 2525 2530 2535 2540 2545 2550 2555 2560 2565 2570 2575 2580 2585 2590 2595 2600 2605 2610 2615 2620 2625 2630 2635 2640 2645 2650 2655 2660 2665 2670 2675 2680 2685 2690 2695 2700 2705 2710 2715 2720 2725 2730 2735 2740 2745 2750 2755 2760 2765 2770 2775 2780 2785 2790 2795 2800 2805 2810 2815 2820 2825 2830 2835 2840 2845 2850 2855 2860 2865 2870 2875 2880 2885 2890 2895 2900 2905 2910 2915 2920 2925 2930 2935 2940 2945 2950 2955 2960 2965 2970 2975 2980 2985 2990 2995 3000 3005 3010 3015 3020 3025 3030 3035 3040 3045 3050 3055 3060 3065 3070 3075 3080 3085 3090 3095 3100 3105 3110 3115 3120 3125 3130 3135 3140 3145 3150 3155 3160 3165 3170 3175 3180 3185 3190 3195 3200 3205 3210 3215 3220 3225 3230 3235 3240 3245 3250 3255 3260 3265 3270 3275 3280 3285 3290 3295 3300 3305 3310 3315 3320 3325 3330 3335 3340 3345 3350 3355 3360 3365 3370 3375 3380 3385 3390 3395 3400 3405 3410 3415 3420 3425 3430 3435 3440 3445 3450 3455 3460 3465 3470 3475 3480 3485 3490 3495 3500 3505 3510 3515 3520 3525 3530 3535 3540 3545 3550 3555 3560 3565 3570 3575 3580 3585 3590 3595 3600 3605 3610 3615 3620 3625 3630 3635 3640 3645 3650 3655 3660 3665 3670 3675 3680 3685 3690 3695 3700 3705 3710 3715 3720 3725 3730 3735 3740 3745 3750 3755 3760 3765 3770 3775 3780 3785 3790 3795 3800 3805 3810 3815 3820 3825 3830 3835 3840 3845 3850 3855 3860 3865 3870 3875 3880 3885 3890 3895 3900 3905 3910 3915 3920 3925 3930 3935 3940 3945 3950 3955 3960 3965 3970 3975 3980 3985 3990 3995 4000 4005 4010 4015 4020 4025 4030 4035 4040 4045 4050 4055 4060 4065 4070 4075 4080 4085 4090 4095 4100 4105 4110 4115 4120 4125 4130 4135 4140 4145 4150 4155 4160 4165 4170 4175 4180 4185 4190 4195 4200 4205 4210 4215 4220 4225 4230 4235 4240 4245 4250 4255 4260 4265 4270 4275 4280 4285 4290 4295 4300 4305 4310 4315 4320 4325 4330 4335 4340 4345 4350 4355 4360 4365 4370 4375 4380 4385 4390 4395 4400 44

FIG. 16 (CONTINUED)

